

2/F1
Circuit

an enclosure substantially surrounding said circuit unit, said mapping data generating unit and said changing unit.

2. (TWICE AMENDED) The encrypting apparatus as set forth in claim 1,
wherein said changing unit includes a configuration unit to write [a] the mapping data object [representing the structure of the encrypting circuit] to the programmable logic device, [to change the encrypting circuit with]

5 wherein said mapping data generating unit reads an existing mapping data object, and

wherein said configuration unit writes the existing mapping data object

RECEIVED
OCT 18 2000
2700 MAIL ROOM

Q2
3. (TWICE AMENDED) The encrypting apparatus as set forth in claim 1,
wherein said [changing] mapping data generating unit includes[:] a compiler unit to generate [a] the mapping data object [representing the structure of the encrypting circuit,] by compiling a library written in a hardware description language, [and]

5 wherein said changing unit includes a configuration unit to write the mapping data object to the programmable logic device[:], and

wherein said [changing] mapping data generating unit reads the change data from an existing library [to obtain the change data], compiles the existing library to obtain the mapping data object, and changes the encrypting circuit using the mapping data object.

4. (TWICE AMENDED) The encrypting apparatus as set forth in claim 1,
wherein said [changing] mapping data generating unit includes:
a database unit to store an encrypting algorithm file having a predetermined encrypting algorithm, and

5 a compiler unit to generate a mapping data object [representing the structure of the encrypting circuit,] by compiling a library written in a hardware description language, [and]

wherein said changing unit includes a configuration unit for writing the mapping data object to the programmable logic device; and

10 wherein said [changing] mapping data generating unit receives the change data from outside said encrypting apparatus, retrieves a relevant encrypting algorithm file and changes the encrypting circuit with the library in the relevant encrypting algorithm file, corresponding to setup data given as the change data.

E2
am 5
Sub
F2

5. (TWICE AMENDED) The encrypting apparatus as set forth in claim 1,
further comprising a network connecting unit to connect the encrypting
apparatus to a communication network, and
wherein said [changing] mapping data generating unit reads the change data
from the communication network.

6. (TWICE AMENDED) The encrypting apparatus as set forth in claim 5, wherein
said network connecting unit receives encrypted change data from the communication network,
and said [changing] mapping data generating unit [changes] generates the encrypting circuit
[corresponding to] using the encrypted change data.

10. (FOUR TIMES AMENDED) A decrypting apparatus, comprising:
a circuit unit, having at least one programmable logic device, to form a decrypt-
ing circuit with the programmable logic device corresponding to given decrypting specifica-
tions;
a [change] mapping data generating unit[,] to [generate automatically] read
change data for changing at least one of the [encrypting specification] decrypting specifications
in accordance with predetermined criteria and to generate a mapping data object representing
the structure of the decrypting circuit; [and]
a changing unit, coupled to said circuit unit and said change data generating
unit, [to read the change data and] to change automatically a structure of the decrypting circuit
corresponding to the [change] mapping data by changing a circuit structure of the programma-
ble logic device without removal from said decrypting apparatus; and
an enclosure substantially surrounding said circuit unit, said mapping data
generating unit and said changing unit.

10

E4

11. (TWICE AMENDED) The decrypting apparatus as set forth in claim 10,
wherein said changing unit includes a configuration unit to write [a] the mapping
data object [representing the structure of the decrypting circuit] to the programmable logic
device, [to change the decrypting circuit with]
wherein said mapping data generating unit reads an existing mapping data
object, and
wherein said configuration unit writes the existing mapping data object.

12. (TWICE AMENDED) The decrypting apparatus as set forth in claim 10,

wherein said [changing] mapping data generating unit includes[:] a compiler unit to generate a mapping data object [representing the structure of the decrypting circuit,] by compiling a library written in a hardware description language, and

5 wherein said changing unit includes a configuration unit to write the mapping data object to the programmable logic device[:], and

wherein said [changing] mapping data generating unit reads the change data from an existing library [to obtain the change data], compiles the existing library to obtain the mapping data object, and changes the decrypting circuit using the mapping data object.

24
E
cont
13. (TWICE AMENDED) The decrypting apparatus as set forth in claim 10,

wherein said [changing] mapping data generating unit includes:

 a database unit to store a decrypting algorithm file having a predetermined decrypting algorithm, and

5 a compiler unit to generate a mapping data object [representing the circuit structure of the decrypting circuit,] by compiling a library written in a hardware description language, [and]

wherein said changing unit includes a configuration unit for writing the mapping data object to the programmable logic device; and

10 wherein said [changing] mapping data generating unit receives the change data from outside said decrypting apparatus, retrieves a relevant decrypting algorithm file and changes the decrypting circuit with the library in the relevant decrypting algorithm file, corresponding to setup data given as the change data.

~~14. (TWICE AMENDED) The decrypting apparatus as set forth in claim 10, further comprising a network connecting unit to connect the decrypting apparatus to a communication network, and~~

~~wherein said [changing] mapping data generating unit reads the change data from the communication network.~~

Sub
F4
15. (TWICE AMENDED) The decrypting apparatus as set forth in claim 14, wherein said network connecting unit receives decrypted change data from the communication network, and

wherein said [changing] mapping data generating unit changes the decrypting circuit corresponding to the decrypted change data.

19. (THREE TIMES AMENDED) A signal processing apparatus, comprising:
circuit means, having at least one programmable logic device, for forming a circuit corresponding to given specifications;

5 [change] mapping data generating means for [automatically generating] reading change data for changing the specifications of the circuit in accordance with predetermined criteria and for generating a mapping data object representing the structure of the circuit, the change data representing one of encrypting specifications or decrypting specifications; [and]

changing means for automatically changing a structure of the circuit corresponding to the [change] mapping data object; and

10 an enclosure substantially surrounding said circuit means, said mapping data generating means and said changing means.

20. (THREE TIMES AMENDED) An encryption processing system for use with a communication system for exchanging encrypted data through a communication network, comprising:

5 encrypting circuit means, having at least one programmable logic device, for forming an encrypting circuit corresponding to given encrypting specifications;

[change] encryption mapping data generating means for [automatically generating decryption] reading encryption change data for changing the encrypting specifications in accordance with predetermined criteria and for generating an encryption mapping data object representing the structure of the encrypting circuit;

10 encryption changing means [for reading the encryption change data] for changing the encrypting specifications and automatically changing a structure of the encrypting circuit corresponding to the encryption [change] mapping data object;

decrypting circuit means, having at least one programmable logic device, for forming a decrypting circuit corresponding to given decrypting specifications;

15 decryption [change] mapping data generating means for [automatically generating] reading decryption change data for changing the decrypting specifications in accordance with the predetermined criteria and for generating a decryption mapping data object representing the structure of the decrypting circuit; [and]

20 decryption changing means [for reading the decryption change data] for changing the decrypting specifications and automatically changing a structure of the decrypting circuit corresponding to the decryption [change] mapping data object; and

an enclosure substantially surrounding said encryption and decryption circuit means, said encryption and decryption mapping data generating means and said encryption and decryption changing means.

21. (THREE TIMES AMENDED) An encrypting apparatus, comprising:

encrypting means, composed of an unit of which circuit connections for encrypting data can be changed corresponding to an external command, for encrypting data;

[change] mapping data generating means for [automatically generating] reading change data to change encrypting specifications in accordance with predetermined criteria and for generating a mapping data object representing the structure of the circuit connections; [and]

changing means for changing the circuit connections of said encrypting means corresponding to the encrypting specifications of the encrypting algorithm only when the encrypting specifications are changed based on the mapping data object; and

an enclosure substantially surrounding said encrypting means, said mapping data generating means and said changing means.

22. (THREE TIMES AMENDED) A decrypting apparatus, comprising:

decrypting means, composed of an unit of which circuit connections for decrypting data can be changed corresponding to an external command, for decrypting data;

[change] mapping data generating means for [automatically generating] reading change data to change decrypting specifications in accordance with predetermined criteria and for generating a mapping data object representing the structure of the circuit connections; [and]

changing means for changing the circuit connections of said decrypting means corresponding to the decrypting specifications of the decrypting algorithm only when the decrypting specifications are changed based on the mapping data object; and

an enclosure substantially surrounding said encrypting means, said mapping data generating means and said changing means.

23. (FOUR TIMES AMENDED) An encrypting method, comprising:

forming an encrypting circuit corresponding to given encrypting specifications with at least one programmable logic device;

reading change data for changing the encrypting specifications; and [a change data generating unit, to generate]

automatically generating change data for changing the encrypting specification; and